

REMARKS

Claims 1-10 are pending in the application. Claims 1 and 3-10 were amended to more particularly point out and distinctly claim the present invention. No new matter was added. All of the new language in claims 1 and 3-10 is explicitly or inherently supported by the original specification. Support for the amendments is found, for example, in paragraphs [0050] through [0052] of the present specification and in Figs. 2, 8 and 9. For at least the reasons set forth below, withdrawal of all outstanding rejections is respectfully requested.

Prior Art Rejections

Claims 1-10 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,028,826 (Yamamoto et al., hereafter "Yamamoto") in view of U.S. Patent No. 5,602,823 (Aoki et al., hereafter "Aoki").

Withdrawal of these rejections is respectfully requested for at least the following reasons.

1. Patentability of claims 1 and 8-10 over Yamamoto in view of Aoki

Claims 1 and 10, as amended, each recite, *inter alia*:

... a first filter that receives the first read signal, attenuates a frequency component of the first read signal, and outputs a first processed signal, the first processed signal having the attenuated frequency component of the first read signal, the frequency component to be attenuated being determined by the lengths of the marks which are formed on a track;

a second filter that receives the second read signal, attenuates a frequency component of the second read signal, and outputs a second processed signal, the second processed signal having the attenuated frequency component of the second read signal, the frequency component to be attenuated being determined by the lengths of the marks which are formed on a track;

a phase difference detecting section for detecting a phase difference between the first and second processed signals;

a signal generating section for generating a tracking error signal, representing a positional relationship between a focal point of the light beam on the optical disc and a target one of the tracks, based on the phase difference; ...

(underlining added for emphasis)

Claims 8 and 9, as amended, each recite, *inter alia*:

... receiving the first read signal, using a first filter to attenuate a frequency component of the first read signal, and outputting a first processed signal, the first processed signal having the attenuated frequency component of the first read signal, the frequency component to be attenuated being determined by the lengths of the marks which are formed on a track;

receiving the second read signal, using a second filter to attenuate a frequency component of the second read signal, and outputting a second processed signal, the second processed signal having the attenuated frequency component of the second read signal, the frequency component to be attenuated being determined by the lengths of the marks which are formed on a track;

detecting a phase difference between the first and second processed signals;

generating a tracking error signal, representing a positional relationship between a focal point of the light beam on the optical disc and a target one of the tracks, based on the phase difference; ...

Amended claims 1 and 8-10 each recite two separate filters that are used to attenuate a frequency component of two separate read signals, respectively, and that a tracking error is generated based on the phase difference between the two signals with attenuated frequency components. These limitations are not disclosed in Yamamoto or Aoki.

The Examiner acknowledges that Yamamoto does not disclose a filter. The Examiner states that column 17, lines 44-67 of Aoki discloses a filter which receives the read signals and which outputs multiple processed signals with one of the frequency components of the read signals attenuated, the frequency component to be attenuated being determined by the lengths of the marks. However, Aoki does not disclose two separate filters that attenuate a frequency component of two separate read signals, respectively, and does not disclose generating a tracking error based on the phase difference between the two signals with attenuated frequency components.

Column 17, lines 44-67 of Aoki discloses a method of reducing crosstalk from the groove portion of an optical disc during the tracking of the land portion by adapting the length of the marks in the land portion based on the length of the marks in the groove portion. Aoki simply mentions that a filter is then used to remove frequency components based on the lengths of the marks (column 17, line 67). Aoki does not disclose the use of two distinct filters as recited in claims 1 and 8-10.

Aoki also does not disclose generating a tracking error based on signals with filtered frequency components. The filter of Aoki is simply used to remove a crosstalk component of a signal, which would not have any affect on minimizing errors in a tracking error signal. The present invention relates to a technique to minimize tracking error by attenuating frequency components with a relatively small amplitude caused by a relatively small mark on a track, not to reduce the frequency component of the crosstalk, as is disclosed in Aoki.

For the above reasons, Applicants respectfully submit that claims 1 and 8-10 are not obvious in view of the combination of Yamamoto and Aoki. Accordingly, Applicants respectfully request that the rejection of independent claims 1 and 8-10 under 35 U.S.C. § 103(a) be withdrawn.

2. Patentability of dependent claims

The dependent claims are believed to be patentable over the applied references for at least the reason that they are dependent upon allowable base claims and because they recite additional patentable elements and steps.

Conclusion

Insofar as the Examiner's rejections were fully addressed, the instant application is in condition for allowance. Issuance of a Notice of Allowability of all pending claims is therefore earnestly solicited.

Respectfully submitted,

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